



U.S. Fish & Wildlife Service

Migratory Bird Program, Southeast - Region 4

Bald Eagle Natural History and Sensitivity to Human Activity Information

These pages provide basic information about the natural history of bald eagles and specific information regarding the sensitivity of bald eagles during the nesting and wintering periods.

Bald Eagle Natural History

Bald eagles are a North American species that occur in Alaska, Canada and the contiguous United States into the northern edge of Mexico. The largest North American breeding populations are in Alaska and Canada, but there are also significant bald eagle populations in the Great Lakes states, Florida, the Pacific Northwest, the Greater Yellowstone area, Maine, and the Chesapeake Bay region.

Adult bald eagles have the dark brown body and distinctive white head and tail. In contrast, juvenile bald eagles have mottled brown and white plumage. They gradually acquire the adult plumage as they mature, which takes about five years. Most bald eagles can breed at 4 or 5 years of age, but many do not start breeding until they are older. Bald eagles in the wild can live to more than 30 years in exceptional circumstances, but average longevity is significantly less.

Bald eagles are opportunistic feeders with fish comprising much of their diet. They also eat waterfowl, shorebirds, colonial waterbirds, small mammals, marine invertebrates, and carrion (often along roads or at landfills). Because they are visual hunters, eagles typically locate their prey from a conspicuous perch, or soaring flight, then swoop down and strike.

The life history of bald eagles can be broadly categorized into nesting and non-nesting periods. The nesting period varies by latitude; in the southeast it begins with courtship and nest building in late September to early October and ends when the young fledge by mid to late May into June. The young are attended by the adults near the nest for several weeks after fledging. As a guideline the breeding season dates in the southeast are Oct 1- May 15. The non-nesting period for the southeast is therefore May 16- September 30.

Florida (FWC 2008). Generally bald eagle that nest in southern latitudes frequently move northward in late spring and early summer, often summering as far north as Canada (USFWS 2007).

Sensitivity of Bald Eagles to Human Activity

Nesting Period

The bald eagle nesting period consists of 5 phases: courtship and nest building, egg laying, incubation and hatching, early nestling period, and late nestling period. Eagle sensitivity to humans varies among these 5 phases, with eagles being most sensitive to human disturbance during the courtship and nest building phase.

Sensitivity also varies among individuals within each phase. Some pairs, for example, nest successfully near human activity, while others abandon nest sites in response to activities much farther away. This variability may be related to a number of factors, including visibility of the activity, its duration and noise level, extent of the area affected by the activity, the eagle pair's prior experiences with humans, and tolerance of the individual nesting pair. Despite this variability, the sensitivity of bald eagles can be generally described within each nesting phase.

Relative Sensitivity of Nesting Bald Eagle to Human Activities

Phase	Activity	Sensitivity to Human Activity	Comments
I	Courtship and Nest Building	Most sensitive period; likely to respond negatively	Most critical time period. Disturbance is manifested in nest abandonment. Bald eagles in newly established territories are more prone to abandon nest sites.
II	Egg laying	Very sensitive period	Human activity of even limited duration may cause nest desertion and abandonment of territory for the nesting season.
III	Incubation and Hatching	Very sensitive period	Adults are less likely to abandon the nest near and after hatching. However, flushed adults leave eggs and young unattended; eggs are susceptible to thermal stress (either over heating or cooling), loss of moisture, and predation; young are vulnerable to elements.
IV	Nestling period, 4 to 8 weeks	Moderately sensitive period	Likelihood of nest abandonment and vulnerability of the nestlings to elements gradually decreases. However, nestlings may miss feedings, which may affect their survival, or may prematurely leave the nest due to disruption,
V	Nestlings 8	Very sensitive	Gaining flight capability, nestlings 8 weeks

	weeks through fledging	period	and older may flush from the nest prematurely due to disruption and die.
--	------------------------	--------	--

Bald eagles may respond in a variety of ways when they are disturbed by human activities. During the nest building period, for example, eagles may inadequately construct or repair their nest, or may abandon the nest, both of which can lead to failed nesting attempts. During the incubation and hatching period, human activities may startle adults or cause them to flush from the nest. Startling can damage eggs or injure young when the adults abruptly leave the nest.

Prolonged absences of adults from their nests can jeopardize eggs or young. Depending on weather conditions, eggs may overheat or cool and fail to hatch. Young nestlings rely on their parents to provide warmth or shade, and may die from hypothermia or heat stress if adults are forced away from the nest for an extended period of time. Eggs and juveniles are subject to greater predation risk while they are unattended.

If human activities disrupt the adults' foraging and feeding schedule, the young may be malnourished, affecting their development and ultimate survival.

Older nestlings may be startled by loud or intrusive human activities and prematurely jump from the nest before they are able to fly or care for themselves.

Human activities that cause any of these responses and lead to injury, a decrease in productivity, or nest abandonment are considered disturbance under the Eagle Act and thus a violation of the Act.

Avoiding Bald Eagle Disturbance at Nest Sites

To avoid disturbing nesting bald eagles, we recommend that you (1) maintain natural forested (or vegetative) buffers around nest trees, and (2) avoid certain activities during the nesting season. The buffer areas serve to minimize visual and auditory impacts associated with human activities near nest sites.

The impact that a new human activity has on a pair of nesting eagles depends on whether the eagles can see the activity from their nest and on how tolerant the birds are to human activity, which may be evidenced by the presence of ongoing human activity near the nest. Visibility is a factor because eagles are more prone to disturbance when an activity occurs in full view. For this reason, we recommend that people locate activities farther from the nest in areas with open vistas than in areas where the view is shielded by rolling topography, trees, or other screening factors. Also, vegetative buffers should be large enough to protect existing nest trees and provide for alternative or replacement nest trees. The size and shape of effective buffers depends on topography and other characteristics surrounding the nest site. For example, in open areas where there are few or no natural forested buffers, the distance alone will serve

as the buffer. Consequently, the buffers in open areas may need to be larger than for areas with denser vegetation or other natural screening.

In addition to the physical features of the landscape, appropriate buffer size may vary according to the historical tolerances of eagles to human activities in particular localities, and may also depend on the location of the nest in relation to feeding and roosting areas used by the eagles. The continued presence of nesting bald eagles in the vicinity of the existing activities indicates that eagles in that area can tolerate a greater degree of human activity than we expect from eagles in areas that experience fewer human impacts.

We recommend seasonal restriction for many temporary activities that do not involve habitat alterations (e.g. fireworks, outdoor concerts). Potential negative impacts can be avoided by restricting these kinds of activities to the non-nesting period.

For activities that include both temporary and permanent habitat disturbance (e.g., building construction), we recommend a combination of landscape buffers and seasonal restrictions.

For specific guidance on establishing appropriate buffers and seasonal restrictions, go to the [technical assistance](#) web site.

Non-nesting Period

Bald eagles are not as sensitive to human disturbance during the non-nesting period. However landscape changes outside of the nesting season do have the potential to cause a take or disturbance to the nesting pair upon their return. We caution that even though a construction or land altering activity is occurring outside of the nesting season, the [National Bald Eagle Management Guidelines \(2007\)](#) should be consulted. In addition, human activities near or within [communal roost](#) sites may—although not physically alter the habitat--prevent eagles from feeding or taking shelter.